

UNIT

1

The First Civilizations and Empires

Prehistory–A.D. 500

The *P*eriod in Perspective

For hundreds of thousands of years, human beings lived in small communities, seeking to survive by hunting, fishing, and gathering food and supplies in an often hostile environment. Then, in the space of a few thousand years, there was an abrupt change of direction. Human beings in a few widely scattered areas of the globe began to master the art of growing food crops. As more food was produced, the population in these areas grew, and people began to live in cities, form governments, and develop writing and art. Historians call this process the beginnings of civilization. It occurred at about the same time in the river valleys of Western Asia, Egypt, India, and China.

Primary Sources Library

See pages 990–991 for primary source readings to accompany Unit 1.



Use The World History **Primary Source**

Document Library CD-ROM to find additional primary sources about The First Civilizations and Empires.



▲ Grecian urns and pottery were often used to portray mythological scenes.

► The temple at Delphi was built to honor the Greek god Apollo.





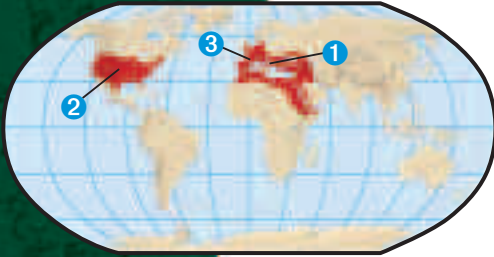
*“...let no day pass without
discussing goodness...”*

—Socrates, *The Apology*



UNIT 1

Looking Back...



Systems of Law

Law is a code of conduct and rights recognized by a society. It provides social control, order, and justice, and it enables people to know their rights and responsibilities. Law is also the cornerstone of a constitutional government, helping to ensure justice and fair treatment of all citizens. “Where law ends, tyranny begins,” said William Pitt, an English leader in 1770.

451–450 B.C.

Twelve Tables posted
in Rome

A.D. 120

Roman law governs
the Mediterranean world

A.D. 533–534

Justinian Code
established

1 Roman Republic

Laying the Foundation

Around 451–450 B.C., a group of judges posted 12 tablets in Rome’s main forum, or marketplace. According to legend, the common people of Rome had demanded that the laws be written down for all to see, so that they would then know their rights.

The Twelve Tables, as they were called, remained in effect for almost 1,000 years. When Roman armies conquered other nations, they brought their laws with them. By A.D. 120, the entire Mediterranean world was governed by Roman law.

The Romans developed important legal principles: the law applied to all people regardless of wealth or power, and people should be ruled by law rather than the whims of their leaders. In A.D. 533–534, the Byzantine emperor Justinian consolidated all Roman law into a single written code. The Justinian Code, *The Body of Civil Law* as it is properly named, became the foundation of today’s civil law system.

Justinian Code

CONTENTS

to See Ahead



Preamble to the
United States Constitution

② The United States

A Model for Constitutional Government

The founders of the United States knew about and admired the Romans and their belief in limiting the power of government. When it came time to draw up a plan of government, the Framers wrote a constitution that balanced the powers of government among three branches.

To ensure that elected leaders did not place themselves above the law, the Framers included a provision that made the Constitution “the supreme law of the land.” The Constitution was adopted on September 17, 1787.

A.D. 1787

United States
Constitution adopted

A.D. 1804

Napoleonic Code
established in France

③ France

Unifying the Law

In 1799, a French general named Napoleon Bonaparte set out to build an empire even larger than Rome’s. To rule this empire, Napoleon followed the Roman example. He appointed a commission to write a uniform code of laws. This code, known as the Napoleonic Code, was completed in 1804.

Although Napoleon ruled as emperor, he drew upon many of the legal precedents first introduced by the Romans. This included the principle that the same laws should be used to govern all people. Under Napoleon, this code was adopted in areas across the globe, such as present-day Belgium, Spain, and Latin America.



Napoleon Bonaparte

Why It Matters

The Romans developed the principle that people should be ruled by law rather than by the whims of leaders. **How did the United States ensure that leaders would not place themselves above the law?**

The First Humans

Prehistory–3500 B.C.

Key Events

As you read, look for the key events in the history of early humans and the beginnings of civilization.

- *Paleolithic peoples learned how to adapt to their nomadic lifestyle, improve on their primitive tools, and use fire to their advantage, thus enabling them to create a more sophisticated human culture.*
- *The agricultural revolution of the Neolithic Age gave rise to more complex human societies that became known as the first civilizations.*

The Impact Today

The events that occurred during this time period still impact our lives today.

- *Scientists continue to search for the remains of early humans, and their discoveries are changing the way we view the first humans.*
- *Paleolithic peoples used technological inventions to change their physical environment, just as humans do today.*



World History Video The Chapter 1 video, "Before History," chronicles the spread of humans and the emergence of the first cities and civilizations.

Archaeologists reconstructing a human skeleton



3,000,000 B.C.
Australopithecines flourish in Africa

1,500,000 B.C.
Homo erectus appears

3,600,000 B.C.

2,000,000 B.C.

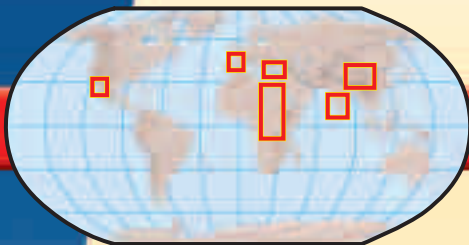
200,000 B.C.

2,500,000 B.C.
Paleolithic Age begins

250,000 B.C.
Homo sapiens species emerges



Paleolithic Era stone tools





Archaeologists excavate a cave used by Neanderthals more than 60,000 years ago.

Neanderthal tomb



8000 B.C.
Systematic
agriculture
develops

1200 B.C.
Bronze Age ends

150,000 B.C.

10,000 B.C.

1000 B.C.

100,000 B.C.
Neanderthals live
in Germany

8000 B.C.
Neolithic Age
begins



Reconstruction of Çatal Hüyük

HISTORY Online

Chapter Overview

Visit the *Glencoe World History* Web site at wh.glencoe.com and click on **Chapter 1—Chapter Overview** to preview chapter information.

CLICK HERE

CONTENTS

A Story That Matters



Mary Leakey



Louis Leakey

A Remarkable Discovery

Louis B. Leakey and his wife, Mary Nicol Leakey, spent most of their lives searching for clues about early human life. Much of their time was spent at **Olduvai Gorge** in East Africa, where they dug up many stone tools and a variety of fossils. However, their ultimate goal—finding the skeleton of an early human being—had eluded them for many years.

Then, one morning, while her husband was back at camp recovering from the flu, Mary Leakey made a remarkable discovery. She jumped into her Land Rover and raced across the African plain back to camp, where she shouted to her startled husband, “I’ve got him! I’ve got him!”

Despite his illness, Louis jumped into the car, and the Leakeys headed back to where Mary had made her discovery. At the site, they looked at the bones Mary had found. Louis later described the scene: “I turned to look at Mary and we almost cried for sheer joy, each seized by the terrific emotion that comes early in life. After all our hoping and hardship and sacrifice, at last we had reached our goal—we had discovered the world’s earliest known human.”



Why It Matters

The Leakeys and many other scientists have labored to form a picture of early human development. Thanks to their efforts, we know that early humans struggled to survive by hunting, fishing, and gathering, and eventually turned to regular farming. This dramatic step gradually led to larger and more complex human communities. This chapter presents the story of that process.

History and You Scientists continue to work throughout the world to discover and analyze the remains of humans. Find, read, and analyze four primary source documents that discuss the work of anthropologists or archaeologists. Compare the most recent findings with those discussed in the chapter. Have any new findings changed the way in which we view early humans?

SECTION 1

Early Humans

Guide to Reading

Main Ideas

- By 10,000 B.C., *Homo sapiens sapiens* had spread throughout the world.
- Paleolithic peoples used technology.

Key Terms

prehistory, archaeology, artifact, anthropology, fossil, australopithecine, hominid, *Homo erectus*, *Homo sapiens*, Neanderthal, *Homo sapiens sapiens*, Paleolithic Age, nomad

People to Identify

Louis B. Leakey, Mary Nicol Leakey, Donald Johanson

Places to Locate

Olduvai Gorge, Lascaux

Preview Questions

1. What methods do scientists use to uncover the story of early humans?
2. What important and dramatic developments took place during the Paleolithic Age?

Reading Strategy

Categorizing Information As you read this section, complete a chart like the one below showing the effects of three tools on the lifestyle of early humankind.

Tool	Effect

Preview of Events

3,000,000 B.C.	1,500,000 B.C.	250,000 B.C.	100,000 B.C.	30,000 B.C.
3,000,000 B.C. Australopithecines make simple stone tools	1,500,000 B.C. <i>Homo erectus</i> uses larger, more varied tools	250,000 B.C. Species <i>Homo sapiens</i> emerges	100,000 B.C. <i>Homo sapiens sapiens</i> and Neanderthals appear	30,000 B.C. Neanderthals are extinct

Voices from the Past



Cave painting of bison in Altamira, Spain

In 1879, a Spanish landowner, who was an amateur archaeologist, took his 12-year-old daughter Maria with him to examine a cave on their farm in northern Spain. While her father busied himself digging for artifacts at the entrance to the cave, Maria wandered inside, holding a lantern. She was startled by what she discovered:

“Ahead was a big dark hole like a doorway. Beyond it was a huge long room. I held my lantern high for a better look. Then, suddenly, I saw big red-and-black animals all over the ceiling. I stood amazed, looking at them.”

— *Secrets from the Past*, Gene S. Stuart, 1979

Ten thousand years before, Stone Age artists had painted an entire herd of animals—horses, boars, bison, and deer—on the ceiling of the cave. Today, these simple paintings provide historians with clues to the lives of early humans.

Before History

Historians rely mostly on documents, or written records, to create their pictures of the past. However, no written records exist for the prehistory of humankind. In fact, **prehistory** means the period before writing was developed.

The story of early humans depends on archaeological and, more recently, biological information. Archaeologists and anthropologists use this information to create theories about our early past. What are archaeologists and anthropologists, and what kinds of information do they provide?

Archaeology and Anthropology **Archaeology** is the study of past societies through an analysis of what people have left behind. Archaeologists dig up and

examine **artifacts**—tools, pottery, paintings, weapons, buildings, and household items—of early peoples. **Anthropology** is the study of human life and culture. Anthropologists use artifacts and the remains of humans—human **fossils**—to determine how people lived their lives.

Archaeologists and anthropologists have developed scientific methods to carry out their work. Excavations of sites around the globe have uncovered fossil remains of early humans, ancient cities, burial grounds, and other objects. The examination and analysis of these remains give archaeologists a better understanding of ancient societies. By examining artifacts such as pottery, tools, and weapons, for example, these scientists learn about the social and military structures of a society. By analyzing bones, skins, and plant seeds, they are able to piece together the diet and activities of early people.

Dating Artifacts and Fossils One of the most important and difficult jobs of both archaeologists and anthropologists is dating their finds. Determining the age of human fossils makes it possible to

understand when and where the first humans emerged. Likewise, the dating of artifacts left by humans helps scientists understand the growth of early societies.

How, then, do archaeologists and anthropologists determine the ages of the artifacts and fossils they find? One valuable method is radiocarbon dating. All living things absorb a small amount of radioactive carbon (C-14) from the atmosphere. After a living thing dies, it slowly loses C-14. Using radiocarbon dating, a scientist can calculate the age of an object by measuring the amount of C-14 left in it.

Radiocarbon dating, however, is only accurate for dating objects that are no more than about 50,000 years old. Another method—thermoluminescence dating—enables scientists to make relatively precise measurements back to 200,000 years. This method of analysis dates an object by measuring the light given off by electrons trapped in the soil surrounding fossils and artifacts.

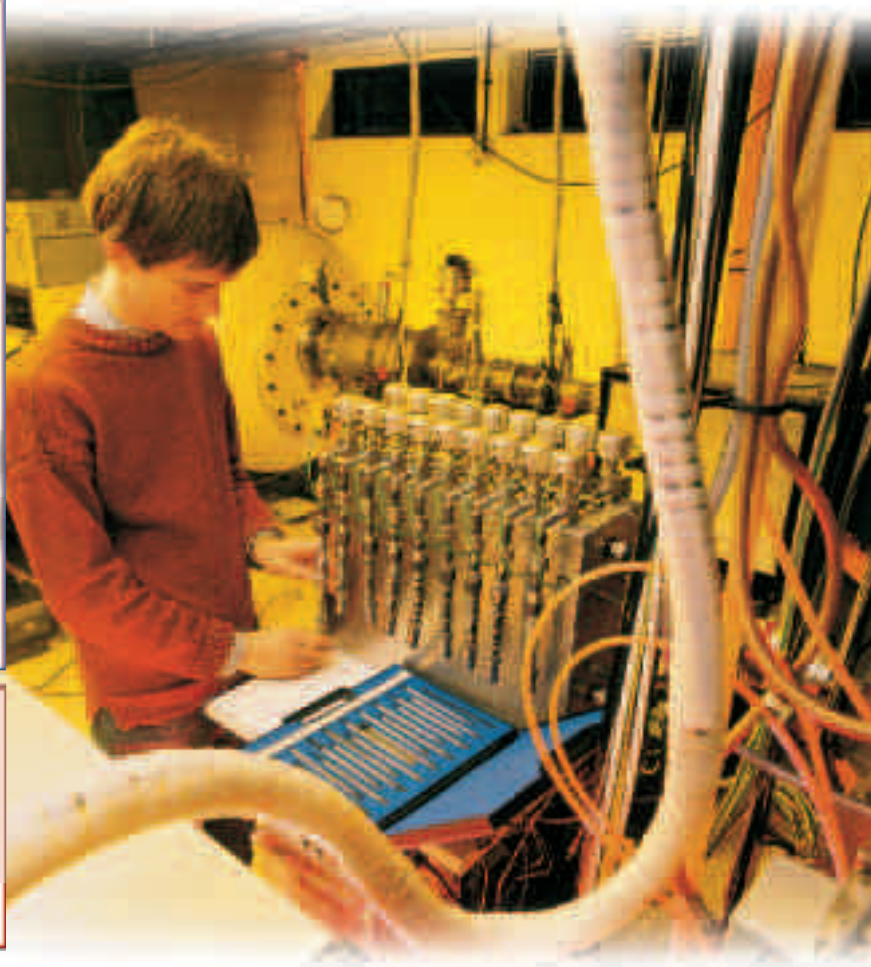
Microscopic and biological analyses of organic remains—such as blood, hairs, and plant tissues left on rocks, tools, and weapons—give scientists still



Graph Skills

Radiocarbon dating is considered to be accurate to about 40,000 to 60,000 years ago. One-half of the carbon 14 atoms disappear from a sample in about 5,730 years.

1. Making Generalizations Why is radiocarbon dating only accurate to around 50,000 years ago?



People In History

Heinrich Schliemann

1822–1890

German archaeologist



Heinrich Schliemann was an archaeologist from Germany. Schliemann had always been fascinated by the story of the Greek siege of Troy, a city in Asia Minor. Most people, including Schliemann's father, believed that the writer of the story, an ancient Greek poet named Homer, had made up his account. Schliemann, though, believed Homer's story was true. He told his father: "If such walls once existed, they cannot possibly have been completely destroyed: vast ruins of them must still remain." Schliemann became a wealthy businessman, learned Greek, and went to Asia Minor. After years of digging, he found his beloved Troy and proved that Homer's account was true.

more information. Such analysis has shown that blood molecules may survive millions of years. This recent scientific discovery is especially useful in telling us more about humans, their use of tools, and the animals they killed. Ancient deoxyribonucleic acid (DNA) is providing new information on human evolution. The analysis of plant remains on stone tools yields evidence on the history of farming. All of these techniques give us insight into the lives of early peoples.

 **Reading Check** **Describing** How do archaeologists and anthropologists determine the ages of fossils and artifacts?

Early Stages of Development

Although modern science has given us more precise methods for examining the prehistory of humankind than we have ever had before, much of our understanding of early humans still depends on guesswork. Given the rate of new discoveries, the current theory of early human life might well be changed in a few years.

From Hominids to Homo Sapiens The earliest humanlike creatures lived in Africa as long as three to four million years ago. Called **australopithecines** (aw•STRAY•loh•PIH•thuh•SYNS), or "southern apes," by their discoverer, **Donald Johanson**, they flourished in eastern and southern Africa. They were

the first **hominids** (humans and other creatures that walk upright) to make simple stone tools.

Recently, however, archaeologists in Kenya have discovered a skull that they believe is from yet another form of hominid. They have called it *Kenyanthropus platyops*—the flat-faced man of Kenya—and think that it is about 3.5 million years old.

A second stage in early human development occurred with the appearance of **Homo erectus** ("upright human being"), a species that emerged around 1.5 million years ago. *Homo erectus* made use of larger and more varied tools. These hominids were the first to leave Africa and move into both Europe and Asia. They were able to do so in part because they learned to use fire to keep warm in colder areas.

Around 250,000 years ago, a third—and crucial—stage in human development began with the emergence of a new species, **Homo sapiens** ("wise human being"). Two distinct subgroups, Neanderthals and *Homo sapiens sapiens*, both developed from *Homo sapiens*.

Neanderthals were first found in the Neander Valley in Germany. Their remains have been dated between 100,000 and 30,000 B.C. and have been found in Europe and Southwest Asia. Neanderthals relied on a variety of stone tools and seem to be the first early people to bury their dead. Some scientists maintain that burial of the dead indicates a belief in an afterlife. Neanderthals in Europe made clothes from the skins of animals that they had killed for food.

History and Science Human Origins: Different Points of View

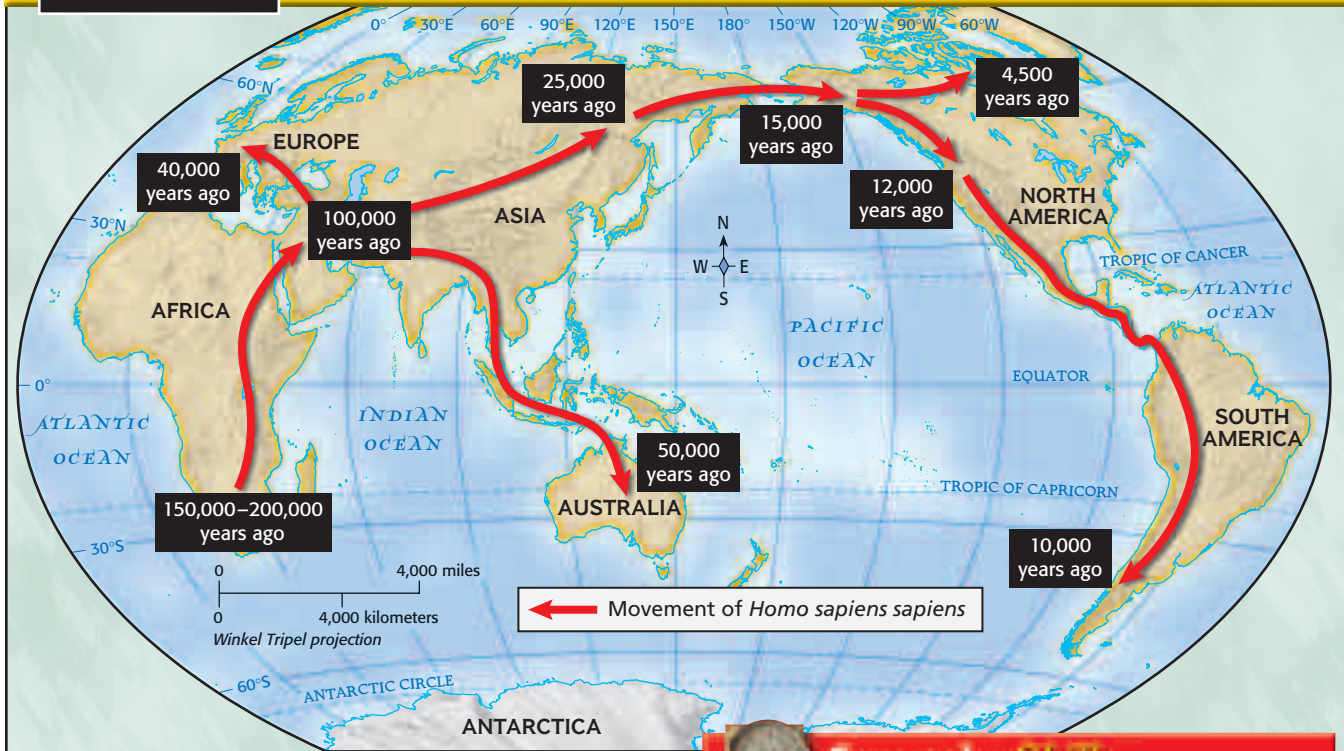
People have different interpretations of the available data on human origins. Two sources of such data are the fossil record and fossil dating.

Fossil record Fossils provide insight into human origins but do not give a complete or conclusive history of human development. Fossils showing changes from one life-form to another are sometimes absent, producing gaps in the record.

Fossil dating Scientists analyze many different samples, using as many different methods as possible, because individual results may vary. Dating methods are constantly being refined to provide more accurate data.

Various ideas exist about the source of life. Many religions claim that a supreme being or a supernatural force created humans and other life-forms. Meanwhile, current scientific theories focus on chemical reactions in which organic materials have come together to form complex life-forms.

Spread of *Homo Sapiens Sapiens*



The first anatomically modern humans (people who looked like us), known as *Homo sapiens sapiens* (“wise, wise human being”), appeared in Africa between 150,000 and 200,000 years ago. Recent evidence indicates that they began to spread outside Africa around 100,000 years ago.

The Spread of *Homo Sapiens Sapiens* By 30,000 B.C., *Homo sapiens sapiens* had replaced the Neanderthals, who had largely died out, possibly as a result of conflict between the two groups.

The spread of these first modern humans was a slow process. Groups of people, probably in search of food, moved beyond their old hunting grounds at a rate of only two to three miles per generation. This was enough, however, to populate the world over tens of thousands of years.

By 10,000 B.C., members of the *Homo sapiens sapiens* subgroup of the species *Homo sapiens* could be found throughout the world. All humans today, whether they are Europeans, Australian Aborigines (A•buh•RIJ•NEES), or Africans, belong to the same subgroups of human beings.

✓ Reading Check Summarizing Identify and describe the three stages of early human development.

Geography Skills

The search for food eventually took members of the *Homo sapiens sapiens* species to every habitable continent.

- 1. Interpreting Maps** Across which two continents did *Homo sapiens sapiens* spread the most quickly?
- 2. Applying Geography Skills** Into which area did *Homo sapiens sapiens* arrive most recently?

The Hunter-Gatherers of the Old Stone Age

TURNING POINT Just as people do today, Paleolithic peoples used technological innovations, including stone tools, to change their physical environment.

One of the basic distinguishing features of the human species is the ability to make tools. The earliest tools were made of stone. The term *Paleolithic Age* is used to designate the early period of human history (approximately 2,500,000 to 10,000 B.C.) in which humans used simple stone tools. Paleolithic is Greek for “old stone,” and the Paleolithic Age is sometimes called the Old Stone Age.

The Paleolithic Way of Life For hundreds of thousands of years, humans relied on hunting and

gathering for their daily food. Paleolithic peoples had a close relationship with the world around them. They came to know what animals to hunt and what plants to eat. They gathered wild nuts, berries, fruits, wild grains, and green plants. Around the world, they hunted and ate various animals, including buffalo, horses, bison, and reindeer. In coastal areas, fish provided a rich source of food.

Over the years, Paleolithic hunters developed better tools. The invention of the spear, and later the bow and arrow, made hunting much easier. Harpoons and fishhooks made of bone increased the catch of fish.

The hunting of animals and the gathering of wild food no doubt led to certain patterns of living. Paleolithic people were **nomads** (people who moved from place to place), because they had no choice but to

follow animal migrations and vegetation cycles. Archaeologists and anthropologists have speculated that nomads lived in small groups of twenty or thirty. Hunting depended on careful observation of animal behavior patterns and demanded group effort for any real chance of success.

The Roles of Men and Women It is probable that both men and women were responsible for finding food—the chief work of Paleolithic peoples. Because women bore and raised the children, they were likely to have stayed close to their camps. There, they played an important role in acquiring food by gathering berries, nuts, and grains. Men did most of the hunting of large animals, which might take place far from camp. Still, both the men and the women were responsible for finding and acquiring the food needed

SCIENCE, TECHNOLOGY & SOCIETY

Tools

The word *technology* refers to the ability of human beings to make things that sustain them and give them some control over their environment. The technology available at the beginning of human history was quite simple. It consisted primarily of the ability to make stone tools.

To make such tools, early people used very hard stones, such as flint. They used one stone to chip away parts of another, creating an edge. Hand axes of various kinds—pointed tools with one or more cutting edges—were the most common. Eventually, axes were set into wooden handles, making them easier to use. By attaching wooden poles to spear points and hardening the tips in fire, humans created spears to kill large animals.

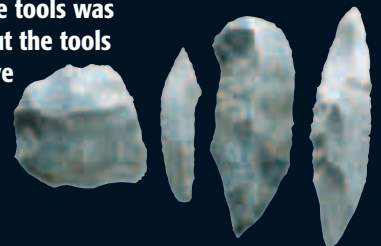
Over time, tool technology evolved and ever-smaller stone points and blades were made. Near the end of the Paleolithic period, there is evidence of such refined tools as bone needles. Needles formed from animal bones could be used for making nets and baskets and even sewing hides together for clothing.

The first tools served a variety of purposes. Humans used stone weapons to kill animals and butcher their meat. Other sharp-edged tools were used for cutting up plants, digging up roots, and cutting branches to build simple shelters. Scraping tools were used to clean animal hides for clothing and shelter.

Analyzing *How did the ability to make simple tools change human life?*



Making stone tools was laborious, but the tools were effective and durable.



Picturing History

Although he was found in a glacier in the Alps, this Iceman actually died more than 5,000 years after the Ice Age. Recent discoveries prove that he was killed by an arrow. The cold mummified his remains. **What tools and techniques might scientists have used to determine the Iceman's age?**



to sustain life. By passing on their practices, skills, and tools to their children, Paleolithic peoples helped to ensure that later generations could survive.

Because both men and women played important roles in providing for the group's survival, some scientists have argued that a rough equality existed between men and women. It is likely that both men and women made decisions that affected the activities of the Paleolithic group.

Adapting to Survive Paleolithic peoples, especially those who lived in cold climates, found shelter in caves. Over time, they created new types of shelter. Perhaps most common was a simple structure of wood poles or sticks covered with animal hides. Where wood was scarce, they might use the bones of large animals to build frames, which were then covered by hides.

The Use of Fire As early hominids moved from the tropics into colder regions, they needed to adjust to new, often harsh, conditions. Perhaps most important to their ability to adapt was the use of fire. It was *Homo erectus* who first learned to make fires deliberately. Archaeologists have discovered the piled remains of ashes in caves that prove that Paleolithic people used fire systematically as long ago as five hundred thousand years. At a *Homo erectus* site in northern China, archaeologists have discovered hearths, ashes, charcoal, and charred bones. All of these were about four hundred thousand years old.

Fire gave warmth and undoubtedly fostered a sense of community for the groups of people gathered around it. Fire also protected early humans by

enabling them to scare away wild animals. Fire might also have enabled early humans to flush animals out of wooded areas or caves and then kill them. In addition, food could be cooked with fire, making it better tasting, longer lasting, and easier to chew and digest (in the case of some plants, such as wild grains).

Scholars believe that different groups of early people discovered ways to start fires independently throughout the world. After examining methods used by traditional peoples, even into the twentieth century, archaeologists assume that the earliest methods for starting fires were probably based on friction, such as rubbing two pieces of wood together. Dry grass and leaves could be added as the wood began to smoke. Eventually, Paleolithic peoples devised sturdy, drill-like wooden devices to start fires. Other early humans discovered that a certain stone (iron pyrites), when struck against a hard rock, gave off a spark that could be used to ignite dry grass or leaves.

The Ice Ages Having fire to create a source of heat was especially important when Ice Age conditions descended on the Paleolithic world. The most recent Ice Age began about 100,000 B.C. and ended in about 8000 B.C. During this time, sheets of thick ice covered large parts of Europe, Asia, and North America.

Ice Age conditions posed a serious threat to human life, and the ability to adapt was crucial to human survival. The use of fire, for example, reminds us that early humans sometimes adapted not by changing themselves to better fit their environment but by changing the environment.

Creating Art

The importance of art to human life is evident in one basic fact: art existed even in prehistory among the hunters and gatherers of the Paleolithic Age. The cave paintings of large animals found at **Lascaux** (la•SKOH) in southwestern France and at Altamira in northern Spain are evidence of this cultural activity. One



cave discovered in southern France in 1994 contained more than three hundred paintings of lions, oxen, owls, panthers, and other animals.

Recent discoveries in other areas of the world have added yet more examples of the artistic achievements of early human beings. According to archaeologists, these cave paintings were done between 25,000 and 12,000 B.C.

All of the caves were underground and in complete darkness, but Paleolithic artists used stone lamps filled with animal fat to light their surroundings. By crushing mineral ores and combining them with animal fat, they could paint in red, yellow, and black. Apparently they used their fingertips, crushed twigs, and even brushes made with animal hairs to apply these paints to the walls. They also used hollow reeds to blow thin lines of paint on the walls.



Cave painting, Lascaux, France

Many of these cave paintings show animals in remarkably realistic forms. Few humans appear in these paintings, and when they do appear, they are not realistic but rather crude, sticklike figures. The precise rendering of the animal forms has led many historians to believe that they were painted as part of a magical or religious ritual intended to ensure success in hunting. Some believe, however, that the paintings may have been made for their own sake. They beautified caves and must have been pleasing to the eyes of early humans.

Reading Check **Identifying** What are the two most important technological innovations of Paleolithic peoples?

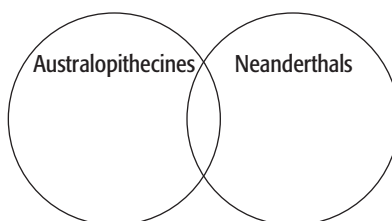
SECTION | ASSESSMENT

Checking for Understanding

1. **Define** prehistory, archaeology, artifact, anthropology, fossil, australopithecine, hominid, *Homo erectus*, *Homo sapiens*, Neanderthal, *Homo sapiens sapiens*, Paleolithic Age, nomad.
2. **Identify** Louis B. Leakey, Mary Nicol Leakey, Donald Johanson.
3. **Locate** Olduvai Gorge, Lascaux.
4. **Explain** why obtaining food by hunting and gathering is characteristic of a nomadic lifestyle.
5. **List** the types of evidence archaeologists and anthropologists rely on to reconstruct prehistory.

Critical Thinking

6. **Compare and Contrast** Distinguish between the roles of Paleolithic men and women in finding food. Explain why finding food was the principal work of Paleolithic peoples.
7. **Compare and Contrast** Create a Venn diagram like the one shown below to compare and contrast the lifestyles of australopithecines and Neanderthals.



Analyzing Visuals

8. **Examine** the photographs of the Iceman on page 24 and the stone tools shown on page 23. How do archaeologists and anthropologists analyze limited evidence such as this skeleton and the stone tools to draw conclusions about the past?

Writing About History

9. **Descriptive Writing** Pretend you are part of an archaeological team uncovering artifacts and fossils at a recently discovered site. Describe the conditions of the site, the sorts of artifacts and fossils you have been working with, and what you hope to find. Read articles or books in your school library to increase your understanding.

SOCIAL STUDIES SKILLBUILDER

Understanding Map Projections

Why Learn This Skill?

On some maps, Greenland appears to be larger than Australia. Australia, however, actually has a larger land-mass than Greenland. Have you ever wondered how this happens? Why do flat maps distort the size of landmasses and bodies of water? The answer lies in understanding the ways that flat maps are constructed.

Learning the Skill

To make flat maps, mapmakers project the curved surface of Earth onto a piece of paper. This is called a map projection. Unfortunately, the process is not exact. Different kinds of projections can accurately show either area, shape, distance, or direction. No one map, however, can show all four of these qualities with equal accuracy at the same time.

Mapmakers try to limit the amount of distortion by using different kinds of map projections. A *conformal map* shows land areas in their true shapes, but their actual size is distorted. An *equal-area map* shows land areas in correct proportion to one another but distorts the shapes of the landmasses.

The map on this page is a *Cylindrical Projection* (*Mercator*). Imagine wrapping a paper cylinder around the globe. A light from within the globe projects its surface onto the paper. The resulting conformal projection makes Alaska appear larger than Mexico. Distortion is greatest near the North and South Poles.

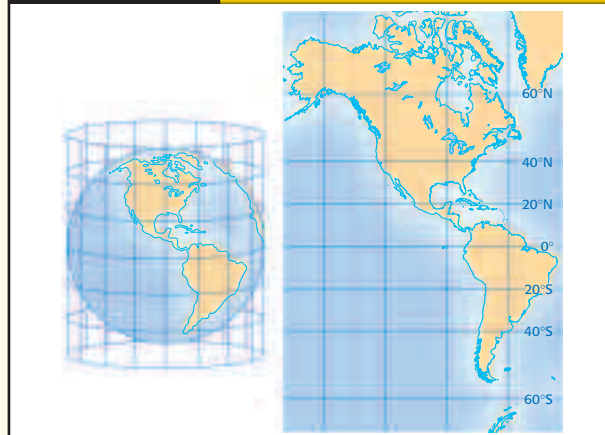
A *Conic Projection* is formed by placing a cone of paper over a lighted globe. This produces a cross between a conformal and an equal-area map. This projection is best for showing the middle latitudes of Earth.

To understand map projections:

- Compare the map to a globe.
- Determine the type of projection used.
- Identify the purpose of the projection.

NATIONAL
GEOGRAPHIC

Cylindrical Projection
(Mercator)



Practicing the Skill

Turn to the map of the world in the Atlas in your textbook. Compare the sizes and shapes of the features on the map to those on a globe. Based on this comparison, answer the following questions:

- 1 What is the map's projection?
- 2 How does the map distort Earth's features?
- 3 In what way does the map accurately present Earth's features?
- 4 Why do you think the mapmaker used this projection?

Applying the Skill

Compare the size of Antarctica as it appears on a map with Antarctica on a globe. Determine the type of projection used on the map and then predict why that projection was chosen for the map. Share your findings in class.



Glencoe's **Skillbuilder Interactive Workbook, Level 2**, provides instruction and practice in key social studies skills.

SECTION 2

The Neolithic Revolution and the Rise of Civilization

Guide to Reading

Main Idea

- Systematic agriculture brought about major economic, political, and social changes for early humans.

Key Terms

Neolithic Revolution, systematic agriculture, domestication, artisan, Bronze Age, culture, civilization, monarch

People to Identify

Mesoamericans, priest

Places to Locate

Jericho, Çatal Hüyük

Preview Questions

- What changes occurred during the Neolithic Revolution that made the development of cities possible?
- How did systematic agriculture spread in different areas of the world?

Reading Strategy

Summarizing Information As you read this section, fill in a chart like the one below listing the six major characteristics of a civilization.

1.	4.
2.	5.
3.	6.

Preview of Events

11,000 B.C.	9000 B.C.	7000 B.C.	5000 B.C.	3000 B.C.	1000 B.C.
8000 B.C. Neolithic Age begins	8000 B.C. Systematic agriculture develops	6700 B.C. Regular farming gives rise to Neolithic villages such as Çatal Hüyük	5000 B.C. Rice is grown in Southeast Asia		1200 B.C. Bronze Age ends

Voices from the Past



Utnapishtim, from
The Epic of Gilgamesh

Around 3000 B.C., cities began to emerge around what had been only farming villages. The first city dwellers were amazed by their new environment. *The Epic of Gilgamesh*, the most famous piece of literature from the ancient Near East, reveals this amazement:

“Look at the walls of Uruk: the outer wall shines with the brilliance of copper; and the inner wall, it has no equal! Climb upon the wall of Uruk; walk along it, I say; regard the foundation terrace and examine the masonry: is it not burned brick and good? The seven sages laid the foundations.”

— *The Epic of Gilgamesh*, N.K. Sandars, ed., 1972

The cities that emerged in the river valleys of Mesopotamia, Egypt, India, and China gave rise to the first civilizations. However, it was the agricultural revolution of the Neolithic Age that made these cities possible.

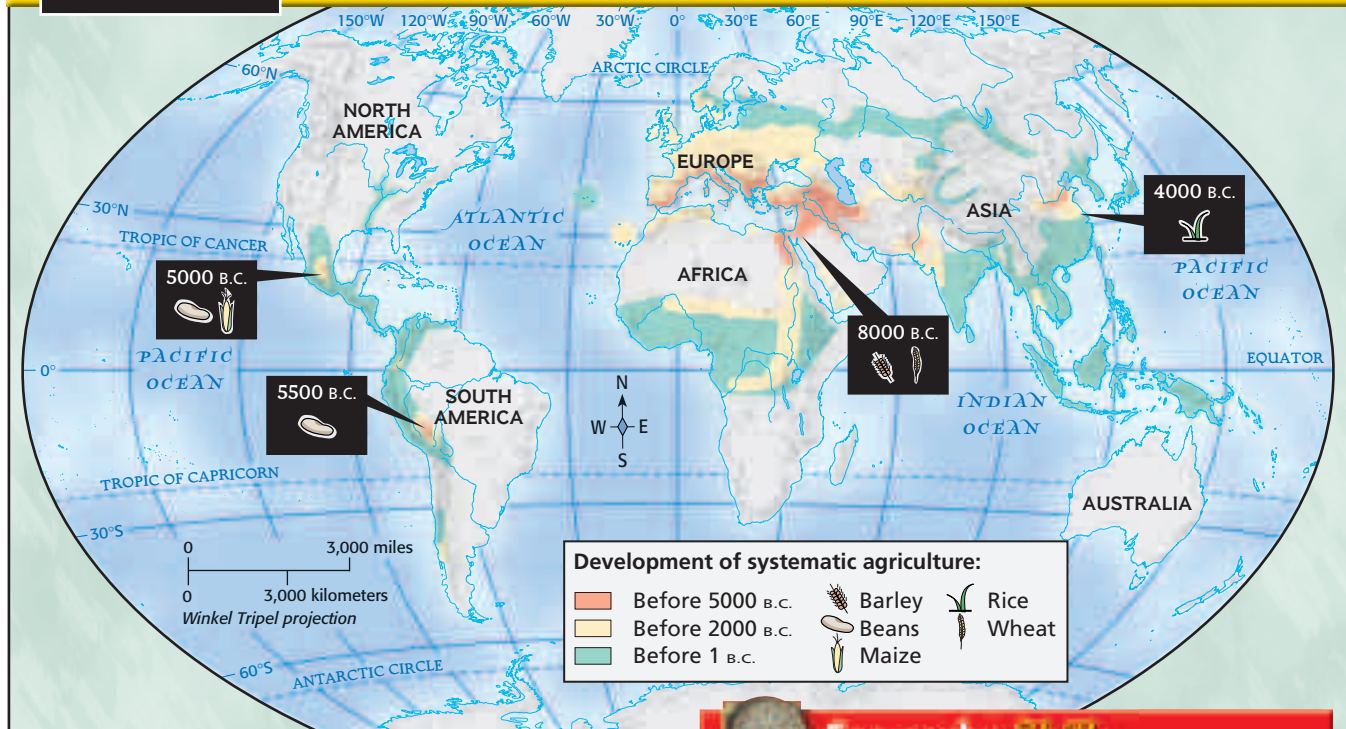
The Neolithic Revolution

TURNING POINT

Despite all of our technological progress, human survival still depends on the systematic growing and storing of food, an accomplishment of people in the Neolithic Age.

The end of the last Ice Age, around 8000 B.C., was followed by what is called the **Neolithic Revolution**—that is, the revolution that occurred in the Neolithic Age, the period of human history from 8000 to 4000 B.C. The word *neolithic* is Greek for

Spread of Farming to 1 B.C.



“new stone.” The name *New Stone Age*, however, is somewhat misleading. The real change in the Neolithic Revolution was the shift from the hunting of animals and the gathering of food to the keeping of animals and the growing of food on a regular basis—what we call **systematic agriculture**.

The planting of grains and vegetables provided a regular supply of food. The **domestication** (adaptation for human use) of animals added a steady source of meat, milk, and wool. Animals could also be used to do work. The growing of crops and the taming of food-producing animals created what historians call an agricultural revolution. Some believe this revolution was the single most important development in human history.

Change is revolutionary when it is dramatic and requires great effort. The Neolithic Revolution marked a revolutionary change. The ability to acquire food on a regular basis gave humans greater control over their environment. It also meant they could give up their nomadic ways of life and begin to live in settled communities.

The Growing of Crops Between 8000 and 5000 B.C., systematic agriculture developed in different areas of the world. People in Southwest Asia had begun growing wheat and barley and domesticating pigs, cows, goats, and sheep by 8000 B.C. From Southwest



Geography Skills

Agriculture developed independently in different regions of the world.

- 1. Interpreting Maps** Between what latitudes did the earliest farming develop?
- 2. Applying Geography Skills** What geologic, geographic, and climatic factors influenced the development of farming?

Asia, farming spread into southeastern Europe. By 4000 B.C., farming was well established in central Europe and the coastal regions of the Mediterranean Sea.

The cultivation of wheat and barley had spread from southwestern Asia into the Nile Valley of Egypt by 6000 B.C. These crops soon spread up the Nile to other areas of Africa, especially the Sudan and Ethiopia. In the woodlands and tropical forests of central Africa, a separate farming system emerged with the growing of tubers (root crops), such as yams, and tree crops, such as bananas. The farming of wheat and barley also moved eastward into the highlands of northwestern and central India between 7000 and 5000 B.C.

By 5000 B.C., rice was being grown in Southeast Asia. From there, it spread into southern China. In northern China, the farming of millet and the domesticating of pigs and dogs seem to have been well

established by 6000 B.C. In the Western Hemisphere, **Mesoamericans** (inhabitants of present-day Mexico and Central America) grew beans, squash, and maize (corn) between 7000 and 5000 B.C. They also domesticated dogs and fowl during this period.

Neolithic Farming Villages The growing of crops on a regular basis gave rise to more permanent settlements. Historians refer to these settlements as Neolithic farming villages. Neolithic villages appeared in Europe, India, Egypt, China, and Mesoamerica. The oldest and biggest ones, however, were located in Southwest Asia. For example, **Jericho**, in Palestine near the Dead Sea, was in existence by 8000 B.C.

Çatal Hüyük (CHAH•tuhl hoo•YOOK), located in modern-day Turkey, was an even larger community. Its walls enclosed 32 acres, and its population probably reached six thousand inhabitants during its high point from 6700 to 5700 B.C. People in Çatal Hüyük lived in simple mud brick houses built so close to one another that there were few streets. To get to their homes, people had to walk along the rooftops and then enter through holes in the roofs.



Archaeologists have found 12 products that were grown in this community, including fruits, nuts, and three kinds of wheat. People grew their own food and kept it in storerooms within their homes. Domesticated animals, especially cattle, yielded meat, milk, and hides. Hunting scenes on the walls of the ruins of Çatal Hüyük indicate that the people also hunted.

As a result of this food production, people often had more food than they needed right away. In turn, food surpluses made it possible for people to do things other than farming. Some people became **artisans**. These skilled workers made products such as weapons and jewelry that were traded with neighboring peoples. Trade exposed the people of Çatal Hüyük to the wider world around them.

Special buildings in Çatal Hüyük were shrines containing figures of gods and goddesses. Female statues have also been found there, often of women giving birth or nursing a child. These “earth mothers” may well have been connected with goddess figures. Both the shrines and the statues point to the growing role of religion in the lives of Neolithic peoples.

Consequences of the Neolithic Revolution The Neolithic agricultural revolution had far-reaching consequences. The dramatic changes that took place during this period led to further changes, affecting the way that people would live for thousands of years. For example, once people began settling in villages or towns, they saw the need to build houses for protection and other structures for the storage of goods. The organized communities stored food and other material goods, which encouraged the development of trade. The trading of goods caused people to begin specializing in certain crafts, and a division of labor developed. Stone tools became more refined as flint blades were used to make sickles and hoes for use in the fields. Eventually, many of the food plants still in use today began to be cultivated. In addition, fibers from such plants as flax and cotton were used to spin yarn that was woven into cloth.

The change to systematic agriculture in the Neolithic Age also had consequences for the relationship between men and women. Men became more active in farming and herding animals, jobs that took them away from the home settlement. Women remained behind, caring for children and taking responsibility for weaving cloth, turning milk into cheese, and performing other tasks that required much labor in one place. As men took on more and more of the responsibility for obtaining food and protecting the settlement, they came to play a more dominant role, a basic pattern that would remain until our own times.



Ruins of the Great Bath, Mohenjo-Daro, Pakistan



Picturing History


The walled city of Skara Brae in Scotland was built about 5,000 years ago. **Why did people start putting walls around their cities?**

The End of the Neolithic Age Between 4000 and 3000 B.C., new developments began to affect Neolithic towns in some areas. The use of metals marked a new level of human control over the environment and its resources.

Even before 4000 B.C., craftspeople had discovered that by heating metal-bearing rocks, they could turn the metal to liquid. The liquid metal could then be cast in molds to make tools and weapons.

Copper was the first metal to be used in making tools. After 4000 B.C., craftspeople in western Asia discovered that a combination of copper and tin created bronze, a metal far harder and more durable than copper. Even after the introduction of bronze, people continued to use stone tools and weapons. Nevertheless, the widespread use of bronze has led historians to speak of a **Bronze Age** from around 3000 to 1200 B.C.

The Neolithic Age was drawing to a close, but it had set the stage for major changes to come. At first, Neolithic settlements had been hardly more than villages. As the inhabitants mastered the art of farming, they gradually began to develop more complex societies. As their wealth increased, these societies began to create armies and to build walled cities. By the beginning of the Bronze Age, large numbers of people were concentrated in the river valleys of Mesopotamia, Egypt, India, and China. This would lead to a whole new pattern for human life.

 **Reading Check Identifying** What changes resulted from the development of systematic agriculture?

The Emergence of Civilization

In general terms, the **culture** of a people is the way of life that they follow. As we have seen, early human beings formed small groups that developed a simple culture that enabled them to survive. As human societies grew and became more complex, a new form of human existence—called civilization—came into being.

A **civilization** is a complex culture in which large numbers of human beings share a number of common elements. Historians have identified the basic characteristics of civilizations. Six of the most important characteristics are cities, government, religion, social structure, writing, and art.

The Rise of Cities Cities are one of the chief features of civilizations. The first civilizations developed in river valleys, where people could carry on the large-scale farming that was needed to feed large populations. Although farming practices varied from civilization to civilization, in each civilization a significant part of the population lived in cities. New patterns of living soon emerged.

The Growth of Governments Growing numbers of people, the need to maintain the food supply, and the need to build walls for defense soon led to the growth of governments. Governments organize and regulate human activity. They also provide for smooth interaction between individuals and groups. In the first civilizations, governments were led by rulers—usually **monarchs** (kings or queens who rule a kingdom)—who organized armies to protect their populations and made laws to regulate their subjects' lives.

The Role of Religion Important religious developments also characterized the new urban civilizations. All of them developed religions to explain the workings of the forces of nature and the fact of their own existence. Gods and goddesses were often believed to be crucial to a community's success. To win their favor, **priests** supervised rituals aimed at pleasing them. This gave the priests special power and made them very important people. Rulers also claimed that their power was based on

HISTORY
Online 

Web Activity Visit the *Glencoe World History* Web site at wh.glencoe.com and click on **Chapter 1—Student Web Activity** to learn more about early peoples.

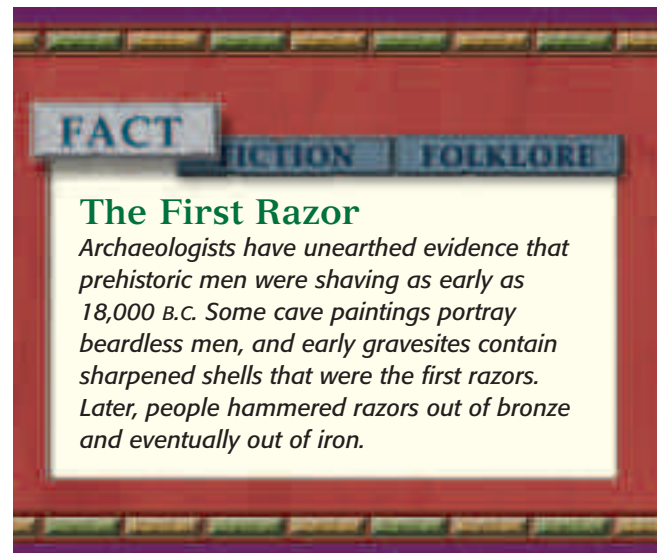
divine approval, and some rulers claimed to be divine.

A New Social Structure A new social structure based on economic power also arose. Rulers and an upper class of priests, government officials, and warriors dominated society. Below this upper class was a large group of free people—farmers, artisans, and craftspeople. At the bottom was a slave class.

Abundant food supplies created new opportunities, enabling some people to work in occupations other than farming. The demand of the upper class for luxury items encouraged artisans and craftspeople to create new products. As urban populations exported finished goods to neighboring populations in exchange for raw materials, organized trade began to grow. Because trade brought new civilizations into contact with one another, it often led to the transfer of new technology from one region to another.

By and large, however, the early river valley civilizations developed independently. Each one was based on developments connected to the agricultural revolution of the Neolithic Age and the cities that this revolution helped to produce. Taken together, the civilizations of Mesopotamia, Egypt, India, and China constituted nothing less than a revolutionary stage in the growth of human society.

The Use of Writing Writing was an important feature in the life of these new civilizations. Above all, rulers, priests, merchants, and artisans used writing to keep accurate records. Of course, not all civilizations depended on writing to keep records. The Inca



in Peru (see Chapter 11), for example, relied on well-trained memory experts to keep track of their important matters. Eventually, all of the first civilizations used writing as a means of creative expression as well as for record keeping. This produced the world's first works of literature.

Artistic Activity Significant artistic activity was another feature of the new civilizations. Temples and pyramids were built as places for worship or sacrifice, or for the burial of kings and other important people. Painting and sculpture were developed to portray gods and goddesses or natural forces.

Reading Check Describing Describe the new social structure that arose in Neolithic cities.

SECTION 2 ASSESSMENT

Checking for Understanding

1. **Define** Neolithic Revolution, systematic agriculture, domestication, artisan, Bronze Age, culture, civilization, monarch.
2. **Identify** Mesoamerican, priest.
3. **Locate** Jericho, Çatal Hüyük.
4. **Explain** how some Neolithic people were able to become artisans.
5. **Compare** the roles of men and women in the Neolithic Age.

Critical Thinking

6. **Describe** What was the relationship among artistic activities, religion, and government during the rise of civilization?
7. **Sequencing Information** Create a diagram like the one below to show how changes during the Neolithic Revolution led to the emergence of civilization.



Analyzing Visuals

8. **Examine** the photo of Skara Brae on page 30. What does the village's ocean location tell you about the way its Stone Age inhabitants lived?

Writing About History

9. **Expository Writing** Much disagreement exists about the interpretation of available data on the origins of humankind. Discuss and document at least two different points of view besides the one presented in the text.

Using Key Terms

1. People who combined copper and tin to make tools are said to have entered the _____.
2. The _____ of animals provided humans with a steady source of meat, milk, and wool.
3. The rise of cities, growth of governments, and development of religion are characteristics of _____.
4. The "modern" type of *Homo sapiens* is called _____.
5. _____ focuses mainly on the study of human fossils.
6. The study of past societies by the analysis of the artifacts they have left behind is called _____.
7. The period of time before writing was developed is called _____.
8. The _____ appear to be the first early people to bury their dead.
9. The _____ designates the period when humans used simple stone tools.
10. Humans and other creatures that walk upright are called _____.
11. Remains of human and animal bones preserved in the earth's crust are _____.
12. Skilled workers and craftsmen who made jewelry and weapons were the first _____.

Reviewing Key Facts

13. **Science and Technology** Explain how radiocarbon dating of fossils and artifacts differs from thermoluminescence dating.
14. **History** List the defining characteristics of the Paleolithic Age.
15. **Culture** What do the cave paintings found in both Lascaux, France, and Altamira, Spain, indicate about Paleolithic humans and their culture?
16. **Society** Give four outcomes, or results, of the settlement of humans in villages and towns.
17. **History** What is the Bronze Age and when did it occur?
18. **Economics** Discuss early trade among different groups of people.
19. **Society** Describe the types of shelter and housing that were used by Paleolithic peoples.
20. **History** What is the most significant development of the Neolithic Age?
21. **Science and Technology** What factors would lead scientists to choose DNA analysis, rather than carbon or thermoluminescence dating, to determine the age of fossils and other archaeological remains?
22. **Culture** What evidence has led historians to believe that Neolithic peoples had religious beliefs?

Chapter Summary

Chapter 1 emphasizes cultural change, movement, and technological innovations.

Event	Cultural Change	Movement	Technological Innovation
Early humans migrate to warmer climates during the Ice Ages.		X	
Early humans learn how to control fire and make tools.	X		X
Caves are painted with religious and decorative art.	X		
Neanderthals inhabit Europe and Asia.		X	
Neolithic peoples domesticate animals.	X		X
Early agricultural villages evolve into highly complex societies.	X		



Self-Check Quiz

Visit the *Glencoe World History* Web site at wh.glencoe.com and click on **Chapter 1–Self-Check Quiz** to prepare for the Chapter Test.

Critical Thinking

23. **Evaluating** Explain the importance of cities, government, and religion in the development of a civilization. How are these three related?
24. **Analyzing** Analyze and explain why the development of systematic agriculture by Neolithic peoples deserves to be called a revolution.

Writing About History

25. **Persuasive Writing** Imagine that you are living in south-eastern Europe at the beginning of the Neolithic Age. Pretend that you have just learned about the systematic agriculture people in Southwest Asia are practicing. Make an argument for or against the adoption of systematic agriculture in your community.

Analyzing Sources

Louis B. Leakey reminded us years ago,

“Theories on prehistory and early man constantly change as new evidence comes to light.”

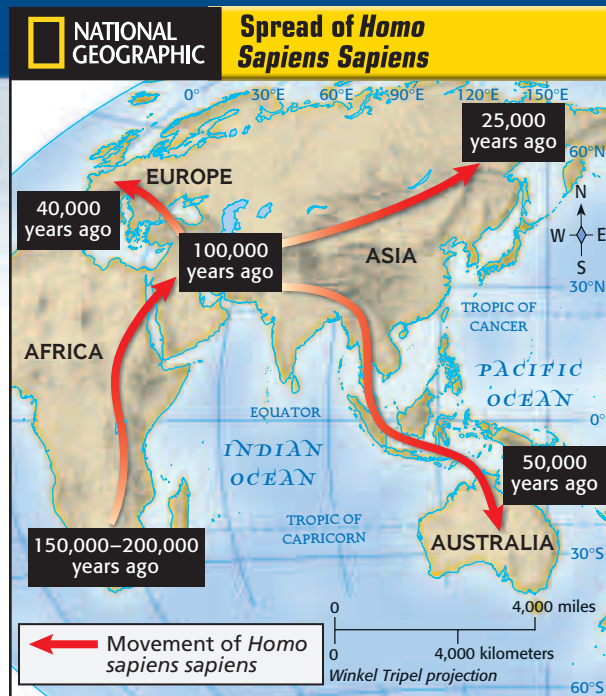
26. How has history proven Leakey correct in his observation?
27. Why is it necessary for archaeologists and anthropologists to continually consider and assess new ideas, new approaches, and new findings?

Applying Technology Skills

28. **Using the Internet** Use the Internet to explore the most recent archaeological finds of prehistoric humans not mentioned in the text. Present this information in a short essay. Be sure to use authoritative sources and be sure to cite your sources in your bibliography.

Making Decisions

29. Pretend you are a Çatal Hüyük trader who encounters another group of people also interested in trade. Do you trade with them? What steps would you take to reach this decision? Do not forget to take into consideration the possibility of both negative and positive outcomes from your contact with these new people.



Analyzing Maps and Charts

30. Based on fossil evidence, where did groups of *Homo sapiens sapiens* migrate first, Europe or Australia?
31. What factors would influence migration?
32. Approximately how many miles did *Homo sapiens sapiens* travel from the equator to Australia?
33. From where did *Homo sapiens sapiens* first migrate?



Standardized Test Practice

Directions: Choose the best answer to the following question.

The basic change that occurred with the Neolithic Revolution was

- A an increase in human population.
- B the cultivation of rice.
- C the shift to raising animals as a regular source of food.
- D an increase in the importance of hunting.

Test-Taking Tip: Always read the question and *all* the answer choices. Do not simply choose the first answer that seems to have something to do with the topic. In this question, you want the choice that comes closest to defining the Neolithic Revolution.